

## CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

- 1 1. (Previously presented) A method for providing film grain information comprising  
2 the steps of:  
3 characterizing an input image information stream in accordance with an input  
4 image stream and a filtered input image stream to provide information indicative of film  
5 grain within the image stream, the film grain information including at least one parameter  
6 among a set of possible parameters specifying different attributes of the film grain in the  
7 image stream;  
8 encoding the film grain information for subsequent transmission.
- 1 2. (Previously presented) A method for providing film grain information  
2 comprising the steps of:  
3 characterizing an image information stream to provide information indicative of  
4 film grain within the image stream, the film grain information including at least one  
5 parameter among a set of possible parameters specifying different attributes of the film  
6 grain in the image stream; and  
7 encoding the film grain information for subsequent transmission;  
8 wherein the set of parameters includes a plurality of correlation parameters and a  
9 plurality of intensity-independent parameters.
- 1 3. (Original) The method according to claim 2 wherein at least one correlation  
2 parameter defines a spatial correlation in a perceived pattern of film grain.
- 1 4. (Original) The method according to claim 2 wherein at least one correlation  
2 parameter defines a correlation between color layers.

1           5. (Original) The method according to claim 2 wherein at least one correlation  
2 parameter defines a temporal correlation resulting from previous processing the image  
3 sequence.

1           6. (Original) The method according to claim 2 wherein at least one intensity-  
2 independent parameters defines an aspect ratio of the film grain.

1           7. (Original) The method according to claim 1 wherein at least one parameter  
2 defines intensity of a random component of the film grain.

1           8. (Original) The method according to claim 2 wherein at least one of the  
2 intensity-independent parameters defines a color space and blending mode operation used  
3 to merge the simulated film grain with the image.

1           9. (Original) The method according to claim 1 further comprising the step of  
2 transmitting the film grain information transmitted out-of band with respect to  
3 transmission of image representative information.

1           10. (Original) The method according to claim 1 further comprising the step of  
2 transmitting the film grain information transmitted in band with respect to transmission  
3 of image representative information.

1           11. (Original) The method in accordance with claim 2 where the set of  
2 parameters are computed in accordance with a second order auto regression  
3 representation of the spatial correlation and a first order regression representation of the  
4 cross-color and temporal correlations.

1           12. (Original) The method according to claim 3 wherein the at least one  
2 parameter describing the spatial correlation of the grain is established in accordance with  
3 a spatial convolution model.

13. (Original) The method according to claim 3 wherein the at least one parameter describing the spatial correlation of the grain is obtained from cut frequencies of a filter in the Fourier domain.

14 (Original) The method according to claim 1 wherein the encoding step comprises encoding the film grain information according to the ITU-T H.264 video coding standard.

15. (Previously pending) Apparatus for providing film grain, comprising:  
first means for characterizing an input image information stream in accordance with an input image stream and a filtered input image stream to provide information of film grain within the image stream, the information including at least one parameter among a set of possible parameters specifying different attributes of the film grain in the image stream;  
second means encoding the film grain information for subsequent transmission.

16. (Previously presented) Apparatus for providing film grain, comprising:  
first means for characterizing an image information stream to provide information of film grain within the image stream, the information including at least one parameter among a set of possible parameters specifying different attributes of the film grain in the image stream;  
second means encoding the film grain information for subsequent transmission;  
and  
wherein the set of parameters includes a plurality of correlation parameters and a plurality of intensity-independent parameters.

17. (Original) The apparatus according to claim 16 wherein at least one correlation parameter defines a spatial correlation in a perceived pattern of film grain.

18. (Original) The apparatus according to claim 16 wherein at least one correlation parameter defines a correlation between color layers.

1           19. (Original) The apparatus according to claim 16 wherein at least one  
2 correlation parameter defines a temporal correlation resulting from previous processing  
3 the image sequence.

1           20. (Original) The apparatus according to claim 16 wherein at least one intensity-  
2 independent parameters defines an aspect ratio of the film grain.

1           21. (Original) The apparatus according to claim 15 wherein at least one parameter  
2 defines intensity of a random component of the film grain.

1           22. (Original) The apparatus according to claim 16 wherein at least one of the  
2 intensity-independent parameters defines a color space and blending mode operation used  
3 to merge the simulated film grain with the image.

1           23. (Original) The apparatus in accordance with claim 16 wherein the first mean  
2 computes the set of parameters in accordance with a second order auto regression  
3 representation of the spatial correlation and a first order regression representation of the  
4 cross-color and temporal correlations.

1           24. (Original) The apparatus according to claim 17 wherein the at least one  
2 parameter describing the spatial correlation of the grain is established in accordance with  
3 a spatial convolution model.

1           25. (Currently amended) The ~~method~~ apparatus according to claim 17 wherein the  
2 at least one parameter describing the spatial correlation of the grain is obtained from cut  
3 frequencies of a filter in the Fourier domain.

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1           26. (Original) The apparatus according to claim 15 wherein second means  
2 encodes the film grain information according to the ITU-T H.264 video coding standard.

1           27. (New)     A method for providing film grain information comprising the  
2 steps of:  
3           characterizing an image information stream to provide information indicative of  
4 film grain within the image stream, the film grain information identifying a model  
5 specifying how to simulate film grain and at least one parameter among a set of possible  
6 parameters in the film grain information specifying different attributes of the film grain in  
7 the image stream for use with said model; and  
8           encoding the film grain information separately from encoding the image  
9 information for subsequent transmission together to enable simulation of film grain in the  
10 image stream upon decoding using the film grain information upon decoding.

1           28. (New)     Apparatus for providing film grain, comprising:  
2           first means for characterizing an image information stream prior to encoding to  
3 provide information of film grain within the image stream, the information identifying a  
4 model specifying how to simulate film grain and at least one parameter among a set of  
5 possible parameters in the film grain information specifying different attributes of the  
6 film grain in the image stream, for use with said identified model, and  
7           second means encoding the film grain information separately from encoding the  
8 image information for subsequent transmission together to enable simulation of film grain  
9 in the image stream upon decoding using the film grain information upon decoding.